

# Artists Using Science and Technology

n e w s l e t t e

Vol.17/No.2

Jan/Feb

# Context is Everything

—Trudy Myrrh Reagan

Looking back 30 years, I am amazed at how I backed into working with patterns in nature and science images. Some who realized Abstract Expressionism was getting hackneyed were turning their sardonic eye to pop culture, soup cans and pies. I dropped out, and only gradually restored my faith in art-making by seeing images I really liked, the framework for a new art vocabulary. Curiously, many of these were from the *Scientific American* and a 1956 book by Gyorgy Kepes, *The New Landscape*, which showed the affinity of science images and abstract art.

I was mining science for art for superficial reasons: "Hey, I found pennies on the road no one has picked up!" But, reluctant to simply copy

① these motifs, I

looked for ways to combine them. I found it humorous to combine snakes with river meanders.

Suddenly, it struck me that these resemblances touched upon a great mystery. It came as no surprise to me when Peter Stevens' 1974 book, *Patterns in Nature*, grouped these into six basic families. But when he said "Of all the constraints on nature, the most far-reaching are imposed by space. For space itself has a structure that influences the shape of every existing thing," my mind was blown.

Since he wrote this, we have experienced an acceleration in the technology of scientific imaging. Subtle signals have detected neutrinos, impulses in brain pathways and black body radiation from space. Brains and genes have yielded to the gaze of new probes. Our sense of "the small" and "the large" have been stretched by see-

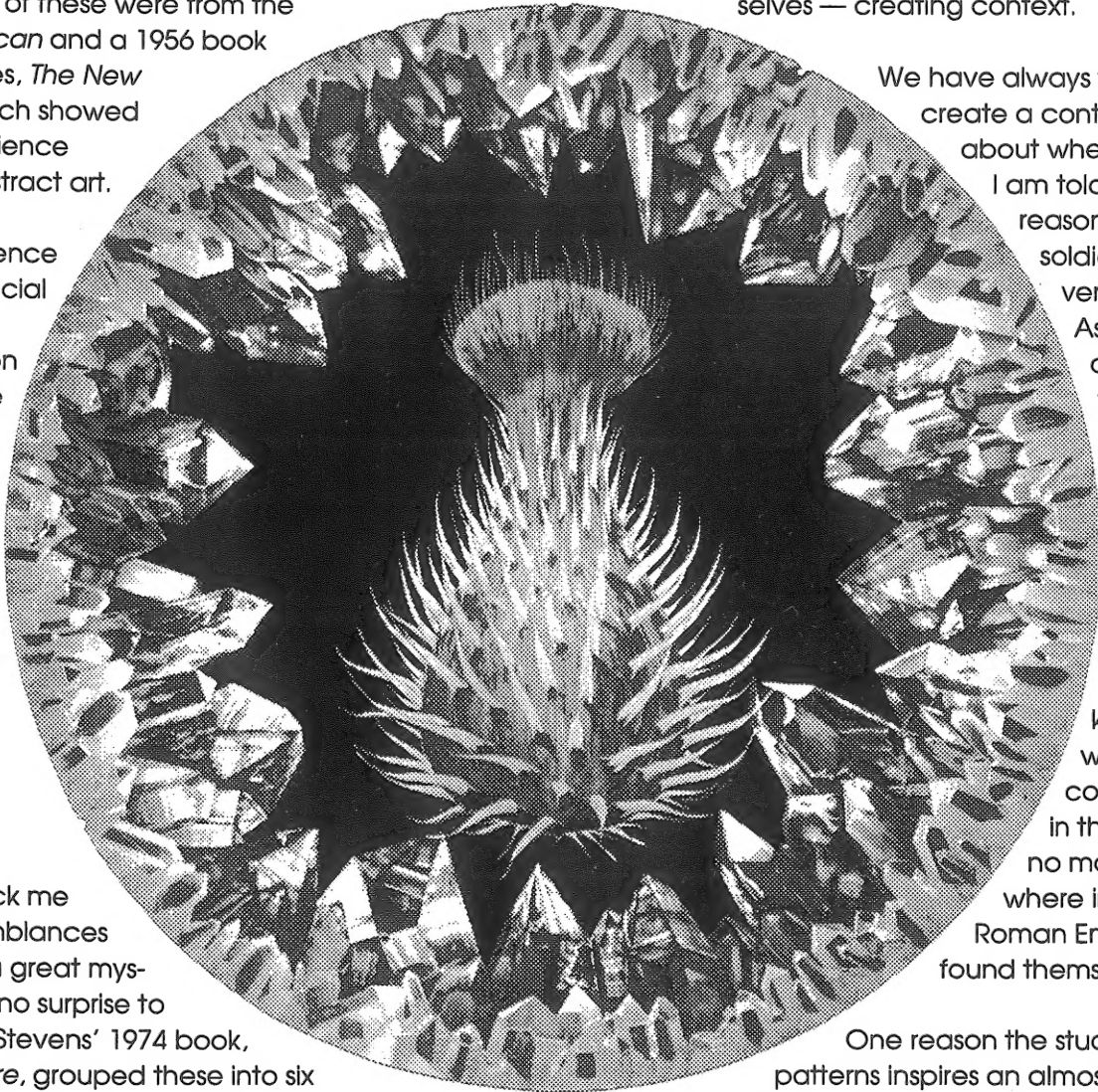
ing tunneling electron microscope images of individual atoms as well as CAD plots of galaxies agglomerated on a scale that utterly confounds us.

My interests have expanded from merely playing with patterns to the attempt to get some overall feeling about the universe in which we find ourselves — creating context.

We have always tried to create a context, a story about where we are. I am told that one reason Roman soldiers converted to the Asiatic cult of Mithra was that it imparted secret knowledge about the stars and planets, a knowledge which they could identify in the heavens no matter where in the Roman Empire they found themselves.

One reason the study of these patterns inspires an almost religious awe is that we feel we are touching on something fundamental, a ground of all being that we have lost in our secular lives. We feel a kinship with the ancients like Pythagoras who were fascinated by patterns and regularities that they observed.

Gathered here are several perspectives on this fascination. None touch on mathematics and computer algorithms, but we'll leave that for another issue!



**"Manufacturing Reality"**

Wednesday, January 8, 7:30 pm

McBean Theater  
The Exploratorium  
3601 Lyon St.

San Francisco, 94123

Contact: Trudy Myrrh Reagan 415-856-9593

The art/technology relationship is one that emerged with photography, and burst out with electronic imaging.

Mary Steiglitz will present a survey, "The Camera is not a Mirror," of the history of visual imaging. It will question the notion of 'realism' connected with photographic images. She will show the links of photography to art, and the current transformation of visual imaging by the computer. Steiglitz is professor of art at the University of Idaho, and is an artist/photographer who has exhibited and published widely.

Cacophony Drive-In Movie Short Film/Video Festival excerpts. Dave Krzysik, is the festival's impresario and editor of this video sampler. He will chat about the project as well as Cacophony's next event, the Brainwash Movie Festival.

Helen Golden has worked in photography, drawing and sculpture, always with the same goals in mind: to create art that would in its ambiguous reality, engage, provoke and cause the viewer to reflect and wonder. She is captivated with new technologies and will describe things she could not even have dreamed of doing before that are now possible, making this the most exciting time in her life as an artist.

Alex and Martha Nicoloff fabricate their own plastic prisms, and record them as they dance in a focussed ray of pure sunlight. Using solar spectrum illumination, they produce myriad effects synchronized with unusual music. Their videos have won NEA awards. We will see *The Eye of the Deity*. Alex describes its themes: "For the reason that it is rarely attempted, we have chosen to show an interpretative documentary of an artistic tradition in two Asian cultures. One is the masked identity of Rangda, a wicked witch often seen in Balinese dances. The other is the meditative image of a Khmer Boddhisatva dating to the 12th century."

**Upcoming Ylem Forums**  
March 12: "Telepresence"  
May 14: "Virtual Reality"

*Untitled*

by Sashi Israel

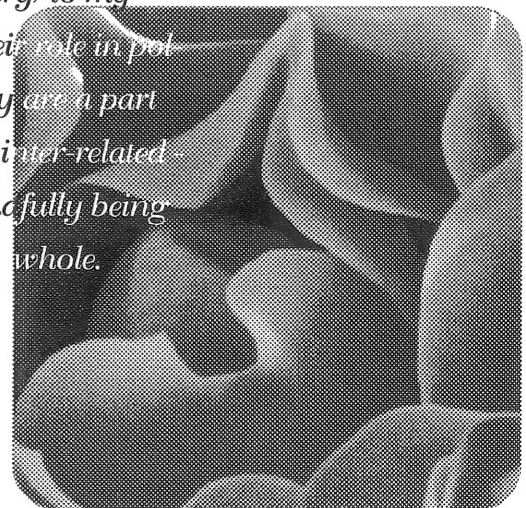
*Darwin called flowers "an abominable mystery." They appeared on the planet suddenly and spread fast. The advent of the flower marked an evolutionary shift on the planet making it possible for man to exist.*

*The birth process differs from flower to flower. Some petals have to push and labor to emerge from their sepals. Others are gently released. In the same way, our lives differ, some of us having to work harder to bloom.*

*Flowers add beauty and spirit (mystery) to my life. With their role in pollination, they are a part of universal inter-relatedness, unmindfully being a part of the whole.*



"Iris," Macrophotography by Sashi Israel



"Rose," Macrophotography by Sashi Israel

# Mesmerized by Minerals

by Betty Rothaus

In 1984, I wandered into a mineral museum for the first time and walked through a doorway into an unfamiliar and extraordinary universe. What I saw came from deep inside the earth and from a faraway place somewhere in our cosmos. What I felt was a strange sensation of quietness, absolute order combined with chance...

Entering the museum, I saw earth colors and spectral colors in a staggering array of hues. Though I had painted with such colors

and color through a series of watercolors, and color etchings and engravings. Working with the thinnest veils of color allowed the white paper to act as a reflective element. I found working with complementary colors to increase the jewel-like quality of each color.

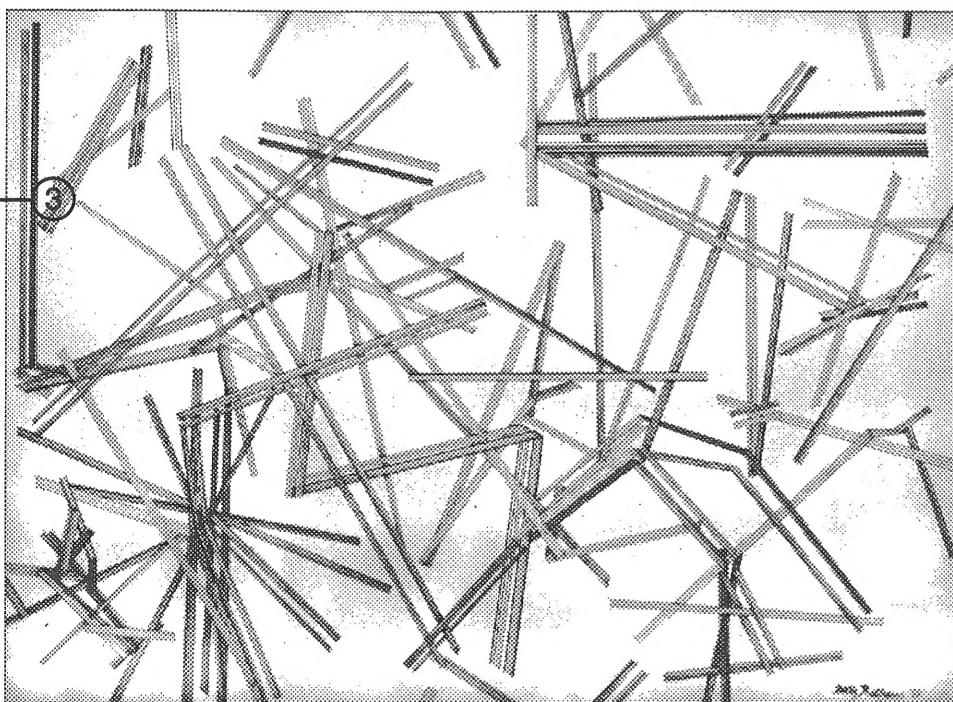
Many of the crystals were geometric; they suggested "architectural" forms. But, with heavier pieces balanced on point — they should have toppled over —

vermilion crystals stuck on a heavy brown rock.

The most striking thing I remember seeing was an iron meteorite which had been sliced open. It was etched with acid to reveal its crystalline structure of nickel and iron (Widmanst ten pattern). On the flat 2D surface was an image that created an illusion that seemed like a 3D weaving made of pipes or rods. Simultaneously, there was a type of space set up that looked infinite.

I made notes of the angles and directions of the rods and later, working backwards on paper, arrived at a grid. This led me to experiment with grids as a method of creating the illusion of dynamic and infinite space. Structures in this type of space seemed to "shift" in contrast to being "fixed" as in Renaissance space.

I was mesmerized as I held a larger calcite crystal in my hand. With the slightest movement, parts of its internal structure became illuminated; with another movement, these disappeared, and others appeared. Thin lighted rectangular planes appeared to float in checkerboard formation. Sometimes the planes joined together at

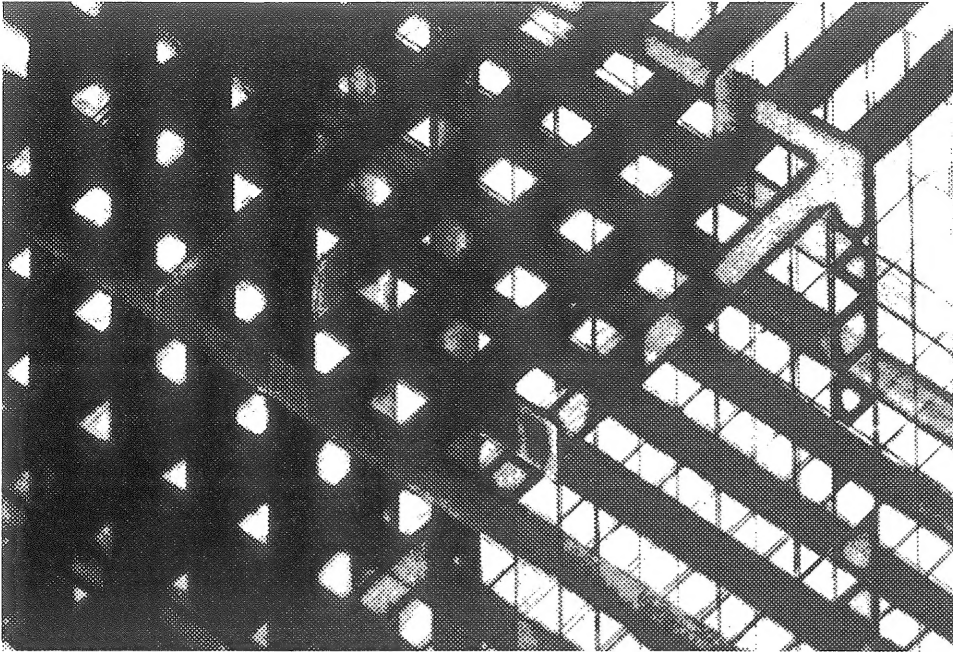


"Attraction," acrylic on Moulin DeGue by Betty Rothaus

for years, these had a purity and clarity in their natural state.

I was particularly drawn to the peculiar quality of light and color in the transparent crystals which seemed to emanate from within — glowing and radiating light and energy. I explored light

I had the eerie feeling they were not obeying the same laws of gravity with which I had grown up. Take, for example, a beautiful specimen of Wulfinite whose shiny hexagonal chips I imagined had floated slowly down to rest on their exact tips and there remain frozen forever, flaming



right angles to form elaborate architectural structures. The outside dimensions of this "solid" in my hand remained the same, but it defied my previous experience of solid matter. Visibly recorded was its internal structure — I saw its formation and its miraculous complexity.

Crystals "grow" as atoms, ions or molecules, and arrange themselves in a regular manner. Layer by layer, they continue until a three-dimensional network emerges. This orderly arrangement may be visualized as a system of repeated lattices, identical throughout the crystal. In this way, flat faces, straight

lines and precise angles are produced. The dimensions may change, but the angles remain constant. If a crystal is shat-

tered, the tiniest piece will still have the original angles. Its internal structure remains intact.

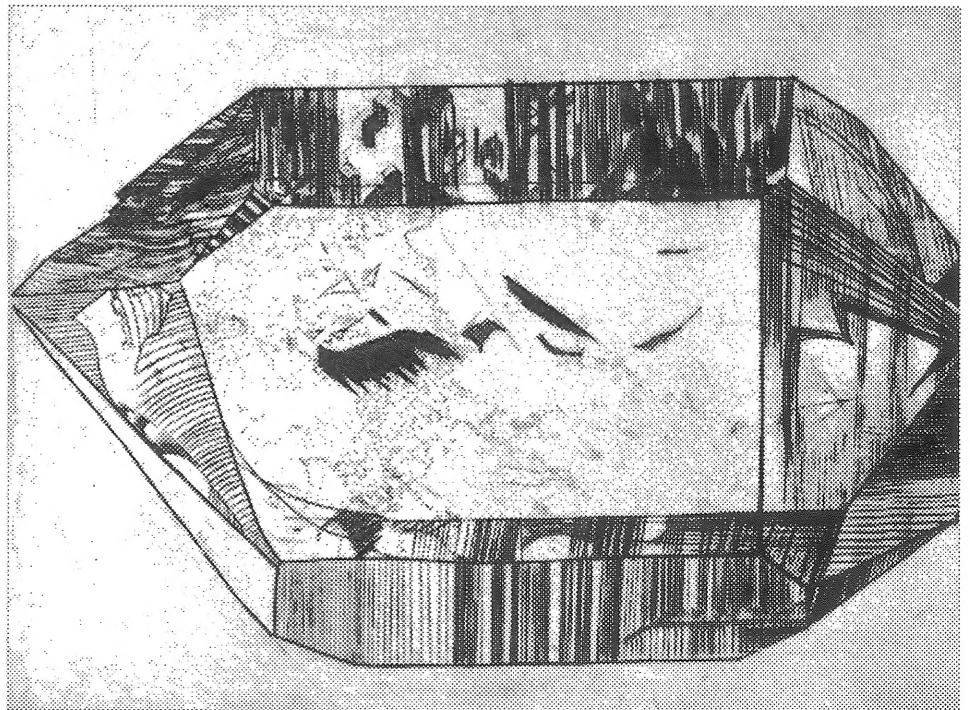
I am convinced that humans are drawn to phenomena outside of

themselves that speak to them about their internal self — their spiritual self. Metaphors that help to explain who we are, what we do here, and our relationship to that which came before us and that which will come after us.

Though I was always attracted to explore, celebrate and create my art about the beauty of natural forms, I have also looked for and sought to express the underlying laws that are not so obvious and yet, form and hold our universe together as we know it — a force that makes life possible.

Betty Rothaus  
550 B Civic Drive  
Walnut Creek, CA 94596

"Quartz Monument," engraving by Betty Rothaus



# Patterns in Nature: Rhythms of Life

Ron Pellegrino, November 1996

As a fully committed life long student of patterns in nature and the rhythms of life, I apply what I discover to creating music, laser animations, computer-generated video, performance multimedia, family life, gardens, food, landscapes, and learning environments. See my web site <[www.microweb.com/ronpell](http://www.microweb.com/ronpell)> for a fleshed-out version of this essay; it includes material on the Taoist magic figures I create with a music-driven laser animation system.

From the largest to the smallest, the deepest to the most superficial, all the patterns,

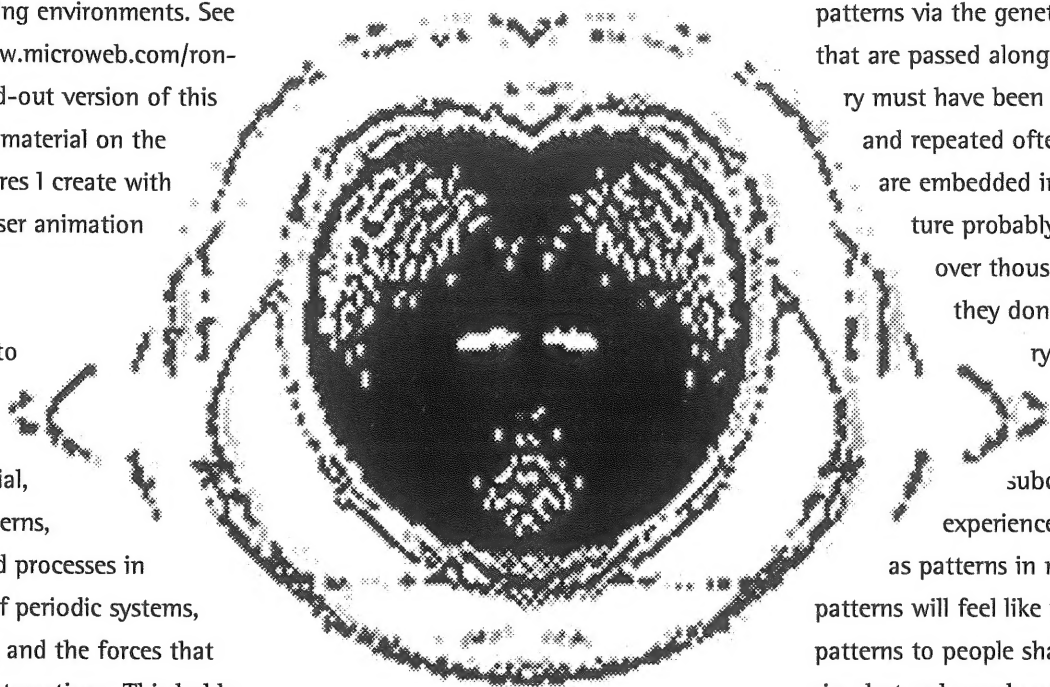
⑤ forms, and processes in nature are born of periodic systems, their interactions, and the forces that influence those interactions. This holds for music, a natural dynamical system perceived as trails of sonic patterns pregnant with subcultural, cultural, and archetypal symbolism endowed with the power to affect the soul.

People respond emotionally to dynamical systems, both natural and invented, that resonate with the forms of human feelings. To humans, human feelings are all that matters. Feelings are not easily forgotten or put aside. And, for both good and bad, they're extremely powerful. We care because we feel.

Inspirational art moves us, causes us to feel, because it embodies the breath of life in its dynamical forms, forms created by periodic patterns, their intersec-

tions, and their interactions.

The keys to stimulating human feelings with dynamical art are 1) to use the right ranges for frequency, amplitude, duration, and complexity and 2) to



organize those materials into patterns, forms, and expressions that are culturally and subculturally on target. The right ranges are those that are perceivable and acceptable physiologically - neither too soft nor too loud, too high nor too low, too short nor too long, too simple nor too complex. The expressions require patterns and forms that are understood by the general culture; however, they may only create truly strong resonances in specific subcultures.

Experiences create dynamic patterns that live in memory. That memory may reside in the brain mind, the muscle mind, the organ mind, the skeletal

mind, the circulatory mind, the digestive system mind, the cellular mind, and various combinations of those and other minds, both internal and external to the subject. Humans and other life forms share an appreciation of inherited patterns via the genetic mind. Patterns that are passed along as genetic memory must have been very important and repeated often. Patterns that are embedded in the general culture probably have evolved over thousands of years, but they don't carry the memory weight of genetic patterns. All generational subcultures share experiences that are stored as patterns in memory. Those patterns will feel like natural cultural patterns to people sharing the memories, but only rarely will those memories outlive that generation to become part of the general culture.

The memory hierarchy starts with genetic and is followed by cultural and then subcultural memory. The patterns that matter most are those that we share at the deepest levels of our being, the patterns of the archetypal forms of feelings that also find reflection in the general culture and its prevailing subcultures. The true test of dynamical art is how well the art works through the tools and techniques of a particular age to set those archetypal forms to ringing.

All events and exhibits are in the San Francisco Bay Area except where noted. List your event or exhibit here. Send to *Ylem Newsletter Items* address on back page.

Some calendar items are reprinted from *Art Calendar* (the monthly marketing and career management journal for artists, PO Box 199, Upper Fairmount, MD 21867. Subscriptions, \$32 p. year), *I/O* (NYC SIGGRAPH), *Leonardo Electronic Almanac*, and *FineArts Forum Online* (paul\_brown@siggraph.org). We cannot verify all information sent to us. Readers, inform us of incorrect information, please.

**Events**

JANUARY 8, 7:30 PM

**YLEM FORUM:  
MANUFACTURING REALITY**  
Details on Page 2.

JANUARY 18, 2 PM

**WILD WHEELS**

Join filmmaker and car artist Harrod Blank for a screening and discussion. Blank discusses the beauty of and expressiveness of car art, as evidenced in such mobile "sculptures" as his own "Camera Van." (See Exhibits.) Lecture free with regular admission.

**THE EXPLORATORIUM, 3601 LYON ST., SAN FRANCISCO, 94123; 415-563-7337**

JANUARY 24, 7:30 PM

**YLEM TALKS BY RALPH ABRAHAM, LEONARD SCHLAIN.**

Details on Page 8 under "Macrocosmos, Microcosmos" exhibit.

JANUARY 29, 7 PM

**TECH TALKS: "TALES FROM THE FINAL FRONTIER"**

Ray Bradbury, noted science fiction author, will discuss technology's role in shaping imagination. Tech Talks are sponsored by the Tech Museum of Innovation. Tickets at BASS, or by mail at the Flint Center box office. Four-lecture spring series: \$100 for nonmuseum members, \$88, members. **FLINT CENTER, DE ANZA COLLEGE, 21250 STEVENS CREEK BLVD., CUPERTINO, CA**

JANUARY 30, 7:30 PM

**YLEM LECTURE:  
PATTERNS IN NATURE**

Lecture by Shoshanah Dubiner. Details on Page 8 under "Macrocosmos, Microcosmos" exhibit.

1997 SCHEDULE:

**TECH TALKS**

Sci-fi author Ray Bradbury, Wed., Jan. 29; astronaut James Lovell, Jr., Wed., Mar. 5; physicist Lawrence Krauss, Wed., Apr. 9; astronaut Mae Jemison, Wed., May 14. All Tech Talks will be held at the Performing Arts located at De Anza College, Cupertino. Tickets for the entire Tech Talks series are \$88 for Tech Museum members, \$100 for nonmembers.

**THE TECH MUSEUM OF INNOVATION, 145 W. SAN CARLOS ST., SAN JOSE, CA 95113; 408-279-7150; FAX -7167**

DECEMBER 5TH - JANUARY 13TH

**PRIVATE LOVES/  
PUBLIC OPERA**

A narrative image web site and installation by Ylem members **Beverly Reiser & Barbara Lee**. The *Private Loves/Public Opera* installation invites participants to traverse an electronic version of 'the garden;' metal trees in bloom with erotic video and forbidden fruit. Sit comfortably on the porch swing and listen to the whispers of Private Loves or the Public Opera. While on the porch add your private love story to the *Private Loves/Public Opera* website and become a part of the community narrative image.

The *Private Loves/Public Opera* is one of five installations included in *BRIDGES: A Collaborative Project*, and juried exhibition by the Annual SFAI Artists Committee.

**WALTER/McBEAN GALLERY S. F. ART INSTITUTE, 800 CHESTNUT @ JONES, S.F., CA. (DETAILS PAGE 8) FOR GALLERY HOURS CALL 1-415-749-4564 [http://arc.org/ylem/private\\_loves/public\\_opera/](http://arc.org/ylem/private_loves/public_opera/)**

JANUARY 5-31

**YLEM EXHIBIT:  
MACROCOSMOS,  
MICROCOSMOS**

Details on Page 8

JANUARY 13 - FEBRUARY 7

**PHOTOCONSTRUCTIONS  
(RENO, NV)**

Ylem member Les Barta's work: original photocol-lages, and a series of Iris prints of computer "photo-constructions" produced with a newly developed archival ink technology.

**TRUCKEE MEADOWS COLLEGE, 7000 DANDINI BLVD., RENO, NV**

JANUARY 14 - FEBRUARY 2

**HARROD BLANK'S  
CAMERA VAN**

Come to the Exploratorium for the exclusive Bay Area premiere of a 1972 Dodge Van covered with 1,705 cameras, created in one full year by Bay Area filmmaker/artist Harrod Blank. He created the camera van to capture people's reactions—their smiles, stares and states of awe at the sight of the van. The entire van itself functions as a giant pinhole camera. **THE EXPLORATORIUM, 3601 LYON ST., SAN FRANCISCO, 94123; 415-563-7337**

THROUGH JANUARY 19

**PROFOUND PLAYTHINGS  
(HASTINGS ON HUDSON, NY)**

Includes Ylem member **Flash Light**. **THE GALLERY AT HASTINGS ON HUDSON, MUNICIPAL BUILDING, 7 MAPLE AVE., HASTINGS ON HUDSON, NY 10706; 914-478-4141**

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FEBRUARY 1 - SEPTEMBER 1

**TALKING PICTURES: THE  
DAWN OF SOUND**

Rediscovered a rich national legacy—selected features and shorts made between 1926 and 1931—the union of art and technology that changed the way the world communicates.

**THE TECH MUSEUM OF INNOVATION, 145 W. SAN CARLOS ST., SAN JOSE, CA 95113; 408-279-7150; FAX -7167**

FEBRUARY 4 - MARCH 16

**SOUND ARTIST  
PAUL DEMARINIS**

The Music Department and the Art Gallery present a new interactive installation by sound artist Paul DeMarinis, whose works (cont'd on page 7)

combine brilliant technical innovation with a strikingly original aesthetic. Reception in the Art Gallery preceeding the March 14 concert.  
**ART GALLERY, MILLS COLLEGE, 5000 MACARTHUR BLVD., OAKLAND, CA 94613**

### ARS ELECTRONICA CENTER

A new Museum of the Future is now open. You will find information on [HTTP://WWW.AEC.AT](http://www.aec.at); OR WRITE **ARS ELECTRONICA CENTER, HAUPTSTRASSE 2, A-4041, LINZ AUSTRIA**; TEL +43 732 71 21 21 - 0; FAX 43 732 71 21 21 - 77; [NFO@AEC.AT](mailto:nfo@aec.at)

ONGOING

### BEHIND THE SCREEN (ASTORIA, NY)

AMMI's core exhibition "Behind the Screen" explores the process of film and television production, with an innovative blend of 800 artifacts, 13 interactive exhibits, live equipment demonstrations, 5 commissioned artworks, and more than 5 hours of audio-visual material.

**AMERICAN MUSEUM OF THE MOVING IMAGE, 35TH AVE. AT 36TH ST., ASTORIA, NY 11106**

### POWERS OF TEN IN IMAX (SAN DIEGO)

An informant tells us where one can see the new IMAX big-screen production of "Powers of Ten" free. (This is the production Joel Primack, the cosmologist who spoke to Ylem in March, consulted on. It shows the world from quarks to galactic clusters): **FLEET SPACE THEATER AND SCIENCE CENTER, BALBOA PARK, SAN DIEGO**

### COMPUTER PLACEMENT PROJECT

Berkeley Mac User Group (BMUG) is placing old Macs in the homes of people who can't afford to buy a computer on their own, then following up with those people to get them into BMUG's free classes and hooked up on the Internet. It's a great community service. Funding has been close to nonexistent. BMUG wants to place 100 computers by February. It has the Macs and the families. Needed: funding, and volunteers in SF and the East Bay.  
**BMUG, 510-549-2684, EXT. 210; COLLEEN\_MILLER@BMUG.ORG**

### ELECTRONIC HIGHWAY ROBBERY

Artists working in the digital world frequently face a key legal question: who owns what? This book tackles the thorny questions surrounding copyright law on the digital frontier. Artist and author Mary Carter interviewed top digital copyright lawyers for this clear guide to copyrighting original work, public domain, ownership of scanned images, and tips on protecting your own visual rights. ISBN 0-201-88393-7; \$18.95.

**PEACHPIT PRESS, 2414 6TH ST., BERKELEY, CA 94710; 800-283-9444; 510-548-4393; FAX -5991; [HTTP://WWW.PEACHPIT.COM](http://www.peachpit.com)**

### FIREFLY

Firefly is an agent technology that allows users to reach others with similar tastes and interests, facilitating development of online communities. Users receive customized music and movies, recommendations and reviews. Also by covering

and producing live music events, Firefly allows users to interact with artists and audience members.  
[HTTP://WWW.FIREFLY.COM](http://www.firefly.com)

### GRAVIKORDS, WHIRLIES & PYROPHONES

Experimental Musical Instruments. Written and compiled by Bart Hopkin; foreword by Tom Waits. A 96-page color book with 90 photographs and a 73-minute CD. Includes the Hologlyphic Funkalizer by Ylem member **Walter Funk**. **ELLIPSIS ARTS ... , PO Box 305, ROSLYN, NY 11576; 516-621-2727; FAX -2750; SALES 800-788-6670; [ELLIARTS@AOL.COM](mailto:ELLIARTS@AOL.COM)**

### IDEA LAB

More than \$100,000 has been used to upgrade equipment, expand work stations and offer more hours to serve students at Foothill's innovative Interactive Discipline Electronic Arts (IDEA) Lab. Foothill is the only community college in the Bay Area to offer students of multimedia graphic design, digital photography, performing arts design, and commercial music the tools of a centralized, fully equipped lab and the software, staff, and training to support them. After mastering the nuts and bolts of software such as Adobe Photoshop, students can enroll in IDEA Lab classes to further hone their fine art, graphic design, and photography talents. For additional info about Fine Arts classes call the number below.  
**FOOTHILL COLLEGE, 12345 EL MONTE RD., LOS ALTOS HILLS, CA 94022-4599; 415-949-7262**

### KOHN ON MUSIC LICENSING

Reference book. From on-line technology to compact disks to music boxes, from motion pictures to the Internet—for every musical form and performance medium, there are specific licensing requirements, with specific legal and financial rules and obligations. The new second edition also gives you more than 60 model forms and license agreements on a 3.5" disk. **PUBLISHER: ASPEN LAW & BUSINESS, 7201 MCKINNEY CIRCLE, PO Box 990, FREDERICK, MD 21705-9727**

### REALITY CHECK

"Features my very favorite kind of futurism. This is the kind of futurism that just barges right in there and makes all kinds of loud and irrevocable mistakes. There's scarcely any hedging in this book, no motion wasted covering anybody's behind. Wanna know when you'll have holes bored in your head by robot surgeons? 2010! Cheap supersonic flight? 2014! All the drugs you can eat? 2019! Often wrong but never in doubt, this is just the kind of book we need while confronting the rare opportunity of a spanking new millennium. ..." From the foreword by Ylem member **Bruce Sterling**. **100 EXPERT OPINIONS, EDITED BY BRAD WIENERS (WIRED BOOKS, SAN FRANCISCO, ISBN 1-888869-03-8, \$16.95).**



### Private Loves/Public Opera

[http://arc.org/ylem/private\\_loves/public\\_opera](http://arc.org/ylem/private_loves/public_opera)  
 A narrative image web site and installation by Ylem members **Beverly Reiser & Barbara Lee**, with help from members **Ian Pollack, Janet Silk and Lenore Weiss**.

OPEN NOW :

*Private Loves/Public Opera Installation* a part of the **BRIDGES - A Collaborative Project**  
 Exhibition juried by the Annual Artists Committee  
**Walter/McBean Gallery**  
 San Francisco Art Institute,  
 800 Chestnut @ Jones, S.F., CA.  
 call 415•749•4564 for gallery hours  
 CLOSES Jan 13th, 1997

The *Private Loves/Public Opera* installation invites participants to traverse an electronic version of 'the garden,' metal trees in bloom with erotic video and forbidden fruit. Sit comfortably on the porch swing and listen to the whispers of *Private Loves* or the *Public Opera*. While on the porch add your private love story to the "Private Loves/Public Opera" website and become a part of the community narrative image.

*"The Internet can be seen as a laboratory where we construct and reconstruct our selves and our context en continuum. It is a seething swarming construction zone, a postmodern Hieronymus Bosch altar piece."*

*Private Loves/Public Opera* is an interactive narrative/image web site, that is, a group of fiction writers have their stories attached to the site's image. The central image is composed of Durer's Adam and Eve and a tree encircled by a foggy environs. Holes penetrate the fog, revealing an image or part of an image evoked by each writer's story. Each small image seen thru a hole in the fog is linked to a page with a particular love story on it. During the course of the installation, while the site is live on the internet, visitors to either the gallery or the web site will be able to add their stories. Each contribution is incorporated into the entire narrative image by the addition of another hole in the fog with images relating to their story. The stories and holes in the fog swarm and proliferate until the entire surface is covered, revealing a landscape of operatic proportions.

Another aspect of the WWW experience that *Private Loves/Public Opera* illustrates is a socio-psychological dichotomy between the solitary performance of the viewer/participant, who usually browses the web in a private moment, and the public spectacle, which is the global theater of the World Wide Web.

### Macrocosmos. Microcosmos

January 6-31, 1997  
 Canessa Gallery  
 708 Montgomery  
 San Francisco, CA 94111  
 (415) 296-9029  
 Hours: 10 a.m. - 4 p.m., M-F

**Grand Tour & Reception, Sunday January 12**  
 2 p.m.: brief talks by the artists about their work  
 3-5 p.m.: refreshments

#### Other Events

**Friday, January 24, 7:30 p.m.**  
 Talks by: **Ralph Abraham**, author of *Chaos, Gaia, Eros*  
**Leonard Schlain**, author of *Art and Physics*  
 Seating is limited!

**Thursday, January 30, 7:30 p.m.**  
 Slide show, "Patterns in Nature," by  
**Shoshanah Dubiner**, designer and educator

The timeless subject of patterns in nature will be treated in very different ways by seven Ylem artists

#### Barbara Plowman

documents the realm of the small as close to us fleas in fur with the scanning electron microscope

#### Grant Elliot

shows defects in gallium arsenide in color photomicrographs of crystals magnified more than 100 times.

#### Roger Ferragallo

digital paintings combine images and symbols to create haunting effects and cosmic grandeur.

#### Margaret Astrid Phanes

digital works combine images of the cosmos with spiritual symbols from many traditions.

#### Mike McGuire

is a fine arts photographer of natural forms that are related to fractals. He has written a computer program enabling people using modestly-priced scanners to make huge, exquisitely-detailed prints of his photographs.

#### Myrrh

shows circular paintings on acrylic plastic sheets illuminated from behind. Each features a different type of natural pattern.

#### Shoshanah Dubiner

exhibits abstract pastel drawings embodying the beauty, harmony, order and perfection she finds in nature.

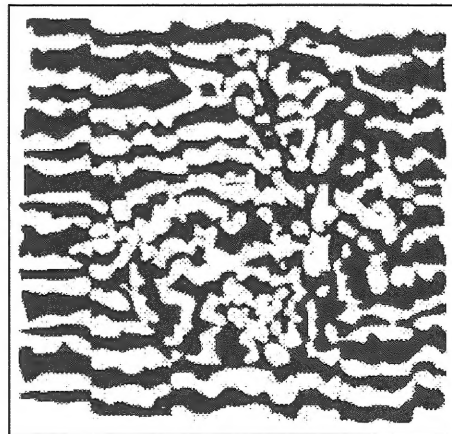
Westbeth (formerly Bell Labs) held a show this fall celebrating its 100th year and the collaborations of artists and scientists there. Computer art pioneers **Lillian Schwartz** and **Kenneth Knowlton** were among those featured.... At the Joyce Goldstein Gallery in New York, curator **Michael von Üchtrup** selected fourteen artists to demonstrate the "Nature of Light" by alternative means of photography....

Also in New York, **Les Levine** had a solo show at the Alternative Museum....**Sylvia Pengilly** was present at the International Computer Music Conference at the Hong Kong University of Science and Technology, where her *Dark Places* composition was presented on August 22. Also, she has moved from New Orleans to near San Luis Obispo, CA....**Carl Machover** gave a talk on the 50-year history of computer art, beginning with analog techniques, at the SCAN Conference in Philadelphia....

**Paul Hartal** spoke on "Rendering Science More Scientific Through Art" at the conference of the International Movement for the Interdisciplinary Study of Estrangement held in Oxford, England.

⑨ (We're curious about what studying estrangement entails!) He will soon publish a novel (see Calendar)....**Lucia Grossberger Morales Sangre Boliviana** CD-ROM is being distributed by the Video Data Bank from the Art Institute of Chicago. Juror **Christine Tamblyn** selected only nine other CD-ROMs....In October, at Artists Television Access **Barbara Lee** had a solo show investigating *Angel & Alien: Visitation*. Web members were invited to attend the Opening Performance "virtually" via a CUSeeMe video Link. Share your visitation story at [http://208.198.184.41/angels\\_alien/chess.html](http://208.198.184.41/angels_alien/chess.html)....The Silicon Valley Institute of Art & Technology showed the work of **Hallie McCongue** and an interactive environments show. *Is it Just Human Nature?* by **Nancy Worthington** in September....**Diane Fenster's** *Ritual Of Abandonment* showed at 911 gallery in Boston this fall and made a "virtual appearance" at the gallery via a CUSeeMe video link in October. Web viewers saw this exchange live....**Sonya Rapoport** gave a poster session on her work, *Brutal Myths*, at ISEA in Rotterdam....**Mike Mosher's** essay "Towards Community Art Machines" will be included in the anthology of *Bad Subjects: Politics in Everyday Life* from NYU Press early next year. Find out more online

at <http://english.hss.cmu.edu/bs/18>. The "Artists Support Affirmative Action!" exhibit in Berkeley just before the November election featured Mosher's mural on Rufco-Wrap plastic sheeting, which showed a lone Native American standing with his Dartmouth class of 1887....An eight by ten-foot digital installation in the "Downtown Lives" exhibit in Los Angeles in October was designed by **M. Ragsdale Wright**. He is also included in the National Computer Art Invitational at Eastern Washington State University, which can be viewed at <http://visual.arts.ewu.edu>....Fax, e-mail and the Internet all transmitted photo-based imagery to **Lillian Bell** at Linfield College in Oregon where she integrated everything into a gallery installation.... Also in Oregon, **Dennis Summers'** installation, "Icons from the Lost Sciences" was designed to give form to quantum mechanics so people could appreciate it at a more intuitive level....The Professional Artist Grant was awarded to **Les Barta** in Reno, NV....**Sarah Jackson** our member in Halifax, Canada, was in two international copier art shows, one in Linz, Austria and the other in Hungary....**Nancy Vachani's** work was featured on the cover for the June/July *Computer Artist*....**Pat Markovich's** work was seen at CVA Gallery in Oakland in June....**Daniel Kottke** and his *Cyberlights* (small programmable LED displays) graced the cover of the *San Jose Metro* in November.



"Chaos, Theory and Practice,"  
computer art by Myrrh

The Ylem Exhibit at Center for Visual Arts in Oakland, originally slated for March, has been postponed. The proposal, "Artists Confronting Technology," of a joint Ylem and Women's Caucus for Arts, South Bay Chapter, is currently being reviewed by several sympathetic curators in Silicon Valley.

### THE GOLDEN RATIO AND SACRED GEOMETRY

Presented by Jonathan Quintin. Artistic demonstration of the language of sacred geometry through shape, form and measure. This language is used to describe the self-organizing forces that form and sustain life on all levels. It provides an interface between the seen and the unseen, the bounded and the boundless in a beautiful visual display. As seen at the Ylem Forum! Video \$29.99; order #B-1. FOUNDATION FOR MIND-BEING RESEARCH; 422 KNOLL DR., LOS ALTOS, CA 94024; 415-941-7462

### THE IBVA SYSTEM

The IBVA (Interactive Brainwave Visual Analyzer) is a state-of-the-art electroencephalograph (EEG) system, coupling medical-grade quality hardware with software. The IBVA makes extensive use of images, sounds, interactivity, MIDI, video, and multimedia. Available for various platforms. The IBVA hardware, consisting of a headband transmitter and a receiver, is sensitive, small, durable and wireless.

IBVA TECHNOLOGIES, INC., 249 E. 48TH ST., SUITE 15D, NEW YORK, NY 10017; 212-754-IBVA (4282); FAX 759-5080

### THE INS AND OUTS OF COMMUNICATION WITH A PREBORN BABY

The ultimate in interactivity! Presented by Dr. Francis Rene Van de Carr, Jr. Review of prenatal stimulation program designed to create an interactive relationship between the expectant parents and the developing fetus and, concurrently, reinforce the

environmental awareness of the fetus. Do memory, understanding, personality and the soul exist before birth? Clinical data suggest they do. Video \$29.99; Audio \$14.99. Order #A-5. FOUNDATION FOR MIND-BEING RESEARCH, 422 KNOLL DR., LOS ALTOS, CA 94024; 415-941-7462

### THE KIDNAPPING OF THE PAINTER MIRO

By Paul Hartal. Illustrated by the author. ISBN 0-9681232-0-1; 235 pp.; \$28.50; publication early 1997. This novel, with its skimpy plot and erudite characters, is really an exposition in story form of the author's thoughts. As such, it is quite wonderful, discussing everything from art-science connections to extraterrestrials. The expressive illustrations deserve mention as well. Hartal, a multi-talented Ylem member, started the Center for Art, Science and Technology (CAST) network in Montreal several years ago.

ELORE PUBLICATIONS, PO Box 2846, CHAMPLAIN, NEW YORK 12919

### HEADHUNTER

Bonnie Harper is a recruiter for new media companies. No fee. Seeks programmers, webmasters, designers, and more.

BONNIE HARPER, 212-505-0410; BONNIEH@INTERPORT.NET

### JOBS AT ART CENTER COLLEGE OF DESIGN

Multimedia instructors sought by this San Fernando Valley school's design department. Info: LAURA ROBIN, ART CENTER COLLEGE OF DESIGN, 818-799-7358; LHR@EARTHLINK.NET

### JOBS AT BLUE SKY STUDIOS

Needs animators, composers, Mac/PC/NT specialist, and more for growing company that produces high-end character animation and visual effects for film. Located in Harrison, NY. Website: www.blueskystudios.com. Info on how to apply:

PERSONNEL DIRECTOR, BLUE SKY STUDIOS, INC., 1 SOUTH ROAD, HARRISON, NY 10528; 914-381-8400; FAX -9791; ANDREA@BLUESKYSTUDIOS.COM

### JOBS AT SQUARE L.A.

Developer of high end games is expanding in Marina del Rey, CA, needs programmers, animators and more. Send resume or inquiries to:

SQUARE L.A., INC., 4640 ADMIRALTY WAY #1200, MARINA DEL REY, CA 90292, ATTN: HUMAN RESOURCES; FAX 310-302-9550; HR@SQLA.COM

### Opportunities

DEADLINE JANUARY 1

### CONVERGENCE X INTERNATIONAL ART FESTIVAL

Seeking proposals for "temporary large-scale sculpture installations in our downtown area. Work may be existing or site specific....We are interested in, (but not limited to), work which is water-related. Sites vary in type, i.e. building plazas, small parks building facades, etc. which are predominantly along a newly developed river-walk." Send samples of recent work (max. 20 slides, or 10-minute video, or copies of proposal drawings; reviews; resume; budget amount (max. \$1,900); SASE to

BOB RIZZO, FESTIVAL DIRECTOR, CONVERGENCE X, PROVIDENCE PARKS DEPT., DIV. OF PUBLIC PROGRAMMING, ROGER WILLIAMS PARK, PROVIDENCE, RI 02905; 401-785-9450

DEADLINE JANUARY 10

### OPEN POSITION AT UNIVERSITY OF IDAHO

Seeking tenure track ("Salary/rank DOE") AY 97-98 to teach 2-D painting and drawing. 3 years' college teaching exper., computer literacy required. Supervise foundation 2-D, teach all levels painting / drawing incl. grad. students. Send application letter, 3 letters of recommendation, transcripts, resume, 20 slides/your work, 20 slides/student work, statement, teaching philosophy, SASE to

JILL DACEY, CHAIR, DEPT. OF ART COLLEGE OF ART & ARCHITECTURE, UNIV. OF IDAHO, MOSCOW, ID 83844-2471; 208-885-6851; FAX -9428

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DEADLINE JANUARY 14

### EVENTWORKS '97

Open to all. Film/video, installation, Internet and satellite events, high tech. media, performance art; also lectures, movement, music, sound art, spoken word.

EVENTWORKS '97, 621 HUNTINGTON AVE., BOSTON, MA 02115; 717-232-1555, x. 561

DEADLINE JANUARY 15

### **BUILDING A RENAISSANCE COMMUNITY**

Written proposals for workshops, presentations or events that would be understandable by people of different backgrounds and disciplines are sought for a day-long event on April 12 that connects the disciplines either in concept, research or production, and workshops that enable participants to dialogue, experiment or interact with each other.

Coincides with the exhibition, "Creation Studies," by Ana England and Stephen Finke, April 4 - May 24.

The artists' work explores the sometimes controversial relationships between contemporary science, religious belief and artistic discipline.

**ARONOFF CENTER FOR THE ARTS, SALLI LOVELARKIN,**

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**DIRECTOR WESTON ART GALLERY ARONOFF CENTER FOR THE ARTS 650 WALNUT STREET CINCINNATI, OH 45202 USA TEL: 513-721-3344 FAX: 513-977-4150**

DEADLINE JANUARY 15

### **CALL FOR PROPOSALS**

For Exploration: City Site and 155 Grove Street Window Installations. Send SASE to the gallery for a prospectus; specify which program you are interested in.

**SAN FRANCISCO ART COMMISSION GALLERY, 401 VAN NESS AVE., SAN FRANCISCO, CA 94102; 415-554-6080; FAX 252-2595;**

**SFACGALLERY@SFPL.LIB.CA.US; HTTP://THECITY.SFSU.EDU/SFAC**

DEADLINE JANUARY 15

### **FELLOWSHIPS IN MATERIALS ANALYSIS**

The Smithsonian offers pre- and post-doctoral fellowships for studies in the application of techniques of the physical sciences to problems in anthropology, archaeology, and the history of art, culture, and technology.

**ADMINISTRATOR OF ARCHAEOOMETRY, CONSERVATION ANALYTICAL LABORATORY, MUSEUM SUPPORT CENTER, MRC 534, SMITHSONIAN INST., WASHINGTON, DC 20560; 301-238-3700**

DEADLINE JANUARY 15

### **FUND FOR US ARTISTS**

Through grants to curators or visual arts organizations, the Fund supports the US presence at the major visual arts biennials in Venice, Sao Paulo, and Sidney. It also funds American participation in contemporary art exhibitions in venues where US work is rarely seen, such as Cairo; Cuenca, Ecuador; Istanbul; and Dakar, Senegal. Grant applications are not accepted directly from artists.

**ARTS INTERNATIONAL, INSTITUTE OF INTERNATIONAL EDUCATION, 809 UNITED NATIONS PLAZA, NEW YORK, NY 10017; 212-984-5370; FAX -5774**

DEADLINE JANUARY 17

### **SEGD's EXCELLENCE IN THREE DIMENSIONAL DESIGN**

3-D projects focusing "on the built and natural environment," i.e., signage, wayfinding systems, exhibit designs, interactive computer kiosks, visual ID programs.

**SOCIETY FOR ENVIRONMENTAL GRAPHIC DESIGN (SEGD), 401 F ST., NW, #333, WASHINGTON, DC, 20001; 202-638-5555; FAX -0891**

DEADLINE JANUARY 19

### **7TH ANNUAL ROSEBUD AWARDS 1997**

"Cash awards, film and video products, theatrical and television screenings, festival showcases, print and broadcast exposure ... to honor ... innovative, experimental, unusual or deeply personal creative film making." Open to directors, producers, or film/videomakers in DC, MD, VA.

**ROSEBUD, PO Box 21309, WASHINGTON, DC 20009; 202-797-9081**

DEADLINE JANUARY 29

### **SIGGRAPH 97 24TH INTERN'L CONFERENCE OF COMPUTER GRAPHICS & INTERACTIVE TECHNIQUES**

Held Aug. 3-8, 1997 at Los Angeles Convention Center, Los Angeles, CA. Entries: Electric Garden, Jan. 29, 1997 (see separate listing); Fine Arts Gallery, Feb. 12, 1997; Computer Animation Festival, Apr. 23, 1997; student volunteers, Mar. 12, 1997. For conference info, contact:

**SIGGRAPH '97 CONFERENCE MANAGEMENT, c/o SMITH, BUCKLIN & ASSOCIATES, INC., 401 NORTH MICHIGAN AVE., CHICAGO, IL 60611; 312-321-6830; FAX -6876; SIGGRAPH97@SIGGRAPH.ORG/S97**

DEADLINE JANUARY 29, 5 PM EST

### **SIGGRAPH 97 ELECTRIC GARDEN**

Submission guidelines: must be interactive. Preference will be given to work pushing limits of technology or involving combinations of technologies. Works that combine a visual experience with auditory and/or tactile experiences, or especially involving taste and scent are sought. All projects must be complete and self-contained. SIGGRAPH 97 will not provide equipment or personnel. Suggested formats: entertainment prototypes, immersive virtual reality, multi-user simulations, Internet/WWW graphical applications and remote installations, and digitally augmented live performances.

**RICK HOPKINS, SIGGRAPH 97 ELECTRIC GARDEN CHAIR, SIDE EFFECTS SOFTWARE, 477 RICHMOND ST. WEST, SUITE 1001, TORONTO, ONTARIO M5V 3E7, CANADA; TEL +1 416-504-6729; FAX -6648; GARDEN.S97@SIGGRAPH.ORG**

DEADLINE JANUARY 30

### **WHAT IS ART?**

Independent curator looking for emerging US mixed-media-installation-crossover artists for project whose theme is the new definition of art at the turn of the coming century. All media, but nothing fragile. Send up to 6 labeled slides, resume, statement, SASE, \$5 review fee to **MARCANO, 8005 6TH AVE., \$2-B, BROOKLYN, NY 11209-4038**

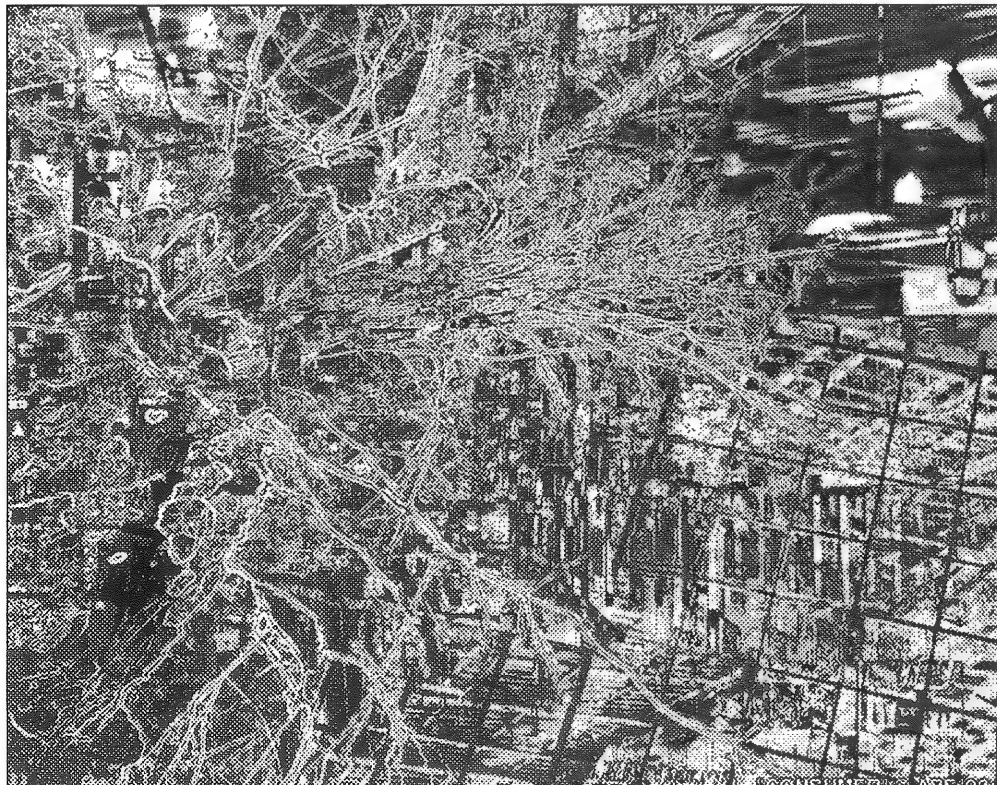
# Using the Computer in the Realm of Nature

by Anne Farrell

## Some Questions:

- Can the computer be used as a tool which connects us to nature, rather than distancing and alienating us from it?
- If we as artists approach the computer with awe, even innocence, can we evolve a process which allows us to integrate technology into living life on the path and creating art?
- Can the computer be used, like other art in the past, to return people to the source of enlightenment?
- By doing art in the context of the machine, can we contribute to remedying the ills of the culture and address global concerns?

"Consumer," digital art (detail) by Anne Farrell



The computer is like a window through dimensions, allowing vision into the realm of nature and the world of the spirit. Ironically, a tool which is a greedy, unecological machine, a power tool created from the purest of left brain, rational process, can be used to peek at the root of natural beauty and the infinity within. In using the computer as a tool to create art, I am trying to articulate and validate a process which is antithetical to the power process through and for which the machines were originally created.

The power of this machine is different from other tools created and used by people. It is an extension of our minds, not our hands. Access is not physical, but rather through verbal directives, numerical manipulations. You can process images through a direct link

from the mind, through the hands, to the machine and back.

Further, because of the digitalization process, any source of visual information from the phenomenal world becomes a resource. Images of nature, the patterns manifested in form through movement and change, can be accessed directly by the machine and used therein. The process of the machine, visible in the magnified display, appears to be a reflection of the patterns of nature on the macro and micro levels. Since humans are part and product of the natural, global process, the process of the machine is also manifestation of the way the human mind works, a reflection of the human mind in nature.

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When the image is magnified one is able to directly see the way information is processed by the machine. This in turn reflects our minds' process. By working with images pulled from the natural and the larger, phenomenal world, I am trying to find a way for the created image to reflect our perceptions, our culture.

I can use analog input from natural phenomena to create a structure by which I can suspend myself over the digital edge, looking over the cliff of established art and culture, into the abyss of the yet to be created.

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Santa Fé, NM 87501  
abfarrell@ad.com

# Atomic Patterns

by Bettina Brendel

When we talk about patterns in nature we immediately think of repetitions.

Patterns are formed by repetitions of forms, colors, sounds and movements in time and space. They are found in nature in the growth of trees or the skin of the leopard, and also in the repeated call of the bird and the breaking waves at the seashore.

Our physical world manifests itself to us in patterns that we recognize, identify and remember. And it is not only the visible, "real" world, that is built upon repetitions, but also the micro-world of molecules and atoms, light and energy. We have established theories on the cognition of patterns, theories that are at the basis of our understanding of how the macro- and micro-world works.

⑬ "The artist shares with the scientist the sense of wonder, of freedom within boundaries and of unity with [Nature] in knowledge," J. Bronowski wrote in his book, *Science and Human Values*. They find unity in what seems to be unlike..."

Many years ago, I was sitting on a small beach near La Jolla, looking out towards the ocean. The sand was completely covered with small, round and polished pebbles, and whenever the waves that flooded the sand were receding each pebble moved a little and touched another pebble, producing a rhythmic, melodious sound, again and again. The thought came to me then, how atoms are jostling in all matter, animate or inanimate, maybe producing a sound unheard by humans. It was as if I caught a glimpse of the universe and its forces right there on this forgotten beach!

In my art I have set myself the task to visualize the mysteries of the micro-world of molecules and atoms and the subatomic structure of elementary particles. With the mind's eye I focus on the interaction of

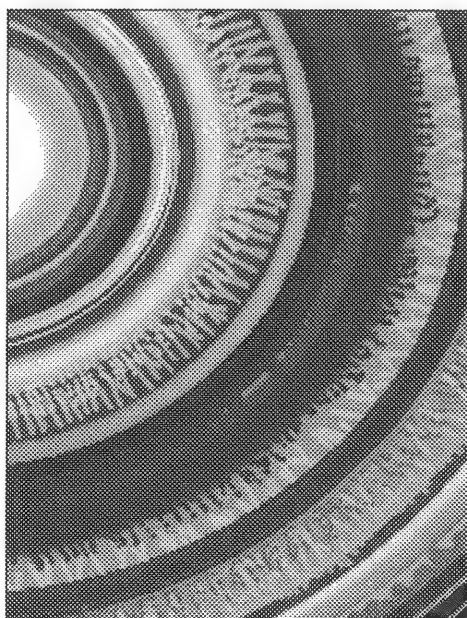
energy-lines, their patterns of symmetry or chaos.

For example, the computer generated image, *Diffraction*, depicts the pattern of concentric rings that is produced when a light-beam is sent through a fine pinhole and reflected on the surface behind. This phenomenon was already observed in the 17th century by Christian Huygens in England who proposed the wave theory of light.

The 18th century German optician, Joseph Von Fraunhofer, named the dark lines of the spectrum. But later developments in physics ascribed the diffraction pattern to the quantum nature of the probability of arrival of photons.

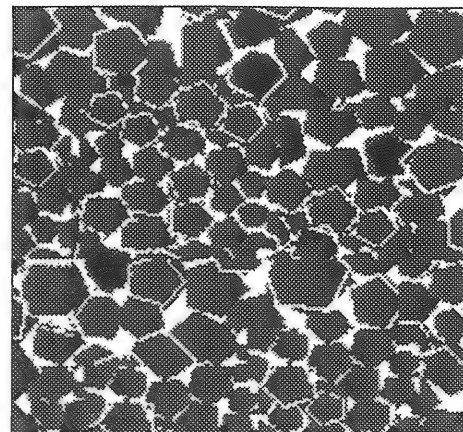
I am mentioning the history of this pattern identification to point out changes of interpretation. The artist finds beauty in the patterns of science.

Fig. 1. "Diffraction," digital art (detail)  
by Bettina Brendel



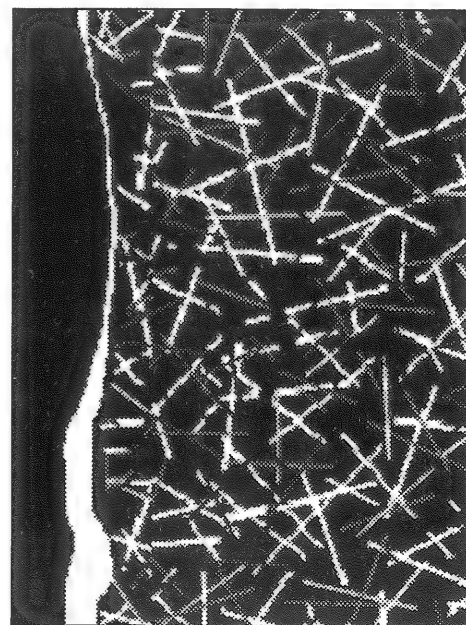
One of my digital images was inspired by the arrangement of closely packed, hexagonal molecules of glass as they can be observed under the electron-microscope.

Fig. 2. "The Physics of Glass," digital art (detail)  
by Bettina Brendel



Many of my large-size paintings and also many computer works show magnifications of the chaotic interaction of ionized particles as in a gas that, due to photon emission, starts to glow.

Fig. 3. "Ionization," digital art (detail)  
by Bettina Brendel



I believe that through the discovery of old and new patterns, around us and within us, we become capable of entering new frontiers and new areas of research and experience!

Bettina Brendel  
1061 N. Kenter Ave., Los Angeles, 90049

# Quiet Foxes: Foxy but not Quite Enough

by Robert Stanley

A review of the interactive piece *Quiet Foxes*, a winner in the 1996 New Voices, New Visions Contest, at <http://www.quiet-time.com/>.

"Quiet Foxes" comes up quietly, in grays, with a lens flare motif. Lovely. However, the initial clicking around to become engaged in the work gets the viewer coy phrases like "The simplest solution is bound to make you nervous." Frustrating.

When, following the somewhat hidden directive, the viewer finally selects *Quiet Foxes*, a click produces a poem-like lament, part of which reads:

"Quiet Now"  
uttered aloud  
leads to a cycle of violence and  
abuse...

"Quiet Foxes!"  
is the imperceptible shiver  
that wafts across each tiny lip  
and is seared in every beating heart.

Woe betide  
the silly child who does not  
instantly acknowledge  
and transform itself  
into a quiet fox.

Although each is beautifully designed, the pages that follow have too much of a flavor of shallow victim-playing.

What is problematic in this piece is problematic in general of interactive media (whether personal or politically oriented): most seem so fascinatingly superficial. Sort of Art lite. Perhaps it is time to decide upon

benchmarks for appreciation. Design? Entertainment value? Whimsy? Political views popular among artists? Exploring new areas? Tentatively, I would suggest as benchmarks something higher, a sharper target: Truth and Beauty. Such values needn't be authoritarian in the Modernist sense, but rather would be benchmarks to measure work against, benchmarks for artists to struggle with. The Postmodernist retort "Whose truth and whose beauty?" is a good question—if it is asked honestly and not made as a statement suggesting that there is no truth nor beauty.

If the viewer were to ignore larger issues and use design and whimsy as values, *Quiet Foxes*, a winner of the NVNV contest, excels. Hardly ever drops a chop. (One pet peeve: eye-catching but unnecessary animations. Why animate "Déjà Vu" to allow a cute phrase like "Honey, you ain't seen nothing yet" to be brought up before you return to the home page you've already seen? Too cute in design and word.)

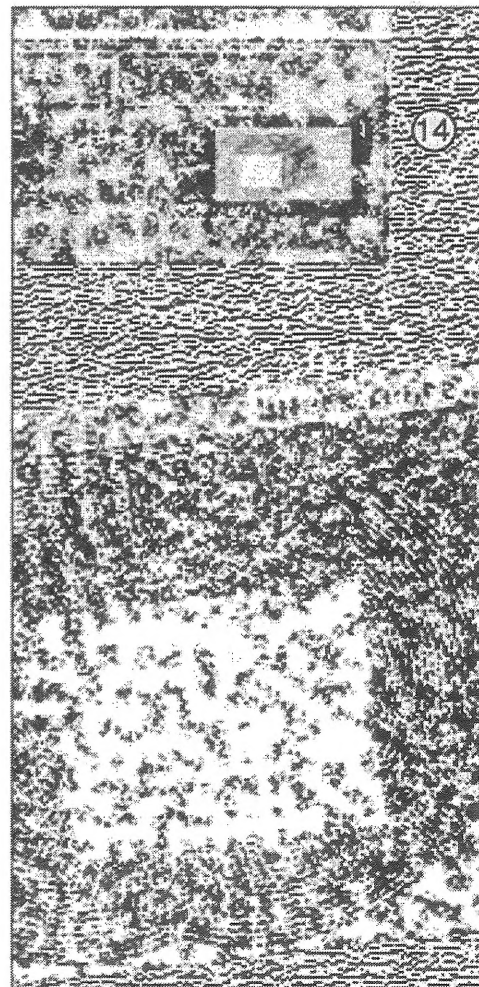
If the viewer were to use newness as a value, *Quiet Foxes* seems to break no really new ground in thought or use of media.

Should the viewer use truth and beauty (as they might appear in a powerful play or a Jim Dine drawing) as values, *Quiet Foxes* seems unlikely to move the spirit to great depths. Its truths are fairly commonplace, the beauty (use of form) is adequate to the words, but not particularly insightful nor moving. Maybe, however, that is the best

that can be done interactively.

Sure, many sets of values can be used, appreciating *Quiet Foxes* in many ways. There's a more important issue here though. We artists and critics probably need to find some commonly agreed-upon benchmarks to sort out the tremendous amount of new works. Otherwise, it's just one whim after another. That might be fun, but who has that much time these days?

Robert Stanley  
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[rstanley@oakton.edu](mailto:rstanley@oakton.edu)



"Creation's Fingerprint," (detail) digital art  
by Robert Stanley

# The Link Between Technology and Nature

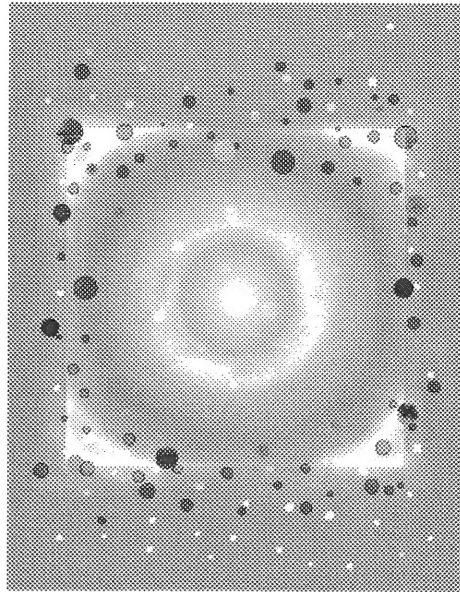
by Margaret Astrid Phanes

I am a visual artist. Since 1988, I have been using computers to create art with natural forms as an element. At that time, I noticed much of the computer imagery I was seeing was appliances, computers and machines. I wanted a more balanced content.

My first computer graphics were a preponderance of cells, suns, stars and landscapes. My work was different not only in the medium I chose, but the subject matter I chose for that medium. When doing computer art, why emphasize natural forms? Natural forms carry for me a symbolic content: an ancient content — a connection to what lies behind them. They offer the idea of a connection to each other and to a whole. The repetition of natural forms gives a connection and continuity of imagery and perception, a world view that encompasses more than the physical world of the senses.

Natural forms have repetitive shapes that can link or associate very different elements. I personally like the similarity of forms between lightning and branching roots, or between cells and the shapes of smooth river rocks. Similarly shaped building blocks of organic and inorganic matter convey a relationship. These different associations offer new perspectives — new ways of looking at matter and its relationship to self and universe.

Visual thinking is useful in working with these ideas. The development and use of intuitive thinking enhances creativity. Since visual thinking works with perception, it focuses on what's similar, what's different, what's included, what's not. This process can bring a new way of organizing and perceiving data. This new awareness goes beyond words to the realm of experience, where pictures are associated with meaning. Symbols, or what objects stand for, are often associated with this new meaning. Pictures can be a representation of intuitive insights. It is possible to visualize the forces that underlie existence: the understanding of the universe that transcends itself. Since logic and reason are limited in this new realm of experience, it is helpful to use intuitive thinking for these expanded visions.



"Being/Becoming," digital art  
by Margaret Astrid Phanes

Because my work has been highly symbolic. I have not always been comfortable with the word "abstract." However, when symbols become abstract, their essence remains. It is essence that I am exploring in natural forms. It is the essence behind the natural world that reveals an experience of oneness. Nature and natural forms are one vehicle to reach that oneness, that connectedness, that relationship to Infinity. In this way technology can explore one's relationship to elements of time and matter as manifestations of a larger reality.

The technology I use can be a mapping device. As an astrologer can map stars

in the sky, I can map ancient symbols and images. And since natural forms have always been with us, they are rich in humanity's experiences past, present and future. They can be a catalyst for opening up to inner experiences.

Many cultures have used natural forms as a \*yantra\*, a visual meditation, for an inner journey or energetic experience. As modern culture reduces its contact with the natural world, we need other ways to tap into the essence of nature. Technology can use visual thinking to perceive meaning as an alternative approach. Technology needs to be held accountable for the states of consciousness it evokes. I persist in new media with subject matter that reminds people of their own natural forms inside them. People deserve to see something that reflects their deeper reality: their insights, dreams and visions.

Technology used for ritual or meditation to increase awareness of a larger reality can help this culture repair and heal its perspectives and priorities. We need not live in a culture where imagery of meaning is absent, where we are surrounded by images that serve only short-term goals of products and services.

We need imagery that presents a rich inner life, an inner life that can be an inspiration for more meaning and purpose for living.

Margaret Astrid Phanes

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phanes@cats.ucsc.edu.



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**MEMBERS DIRECTORY:**

An annual publication in which you are listed along with approx. 250 other artists of new art forms

**NEWSLETTERS:**

The bi-monthly Ylem Newsletter contains articles on numerous topics along with news of members, a calendar of events and art opportunities

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Ylem presents bi-monthly Forums at San Francisco's Exploratorium, curates art shows, and arranges special site visits.

**HEALTH CARE INSURANCE:**

Members are eligible for a group health care program

**NEW! YLEM SLIDE REGISTRY**

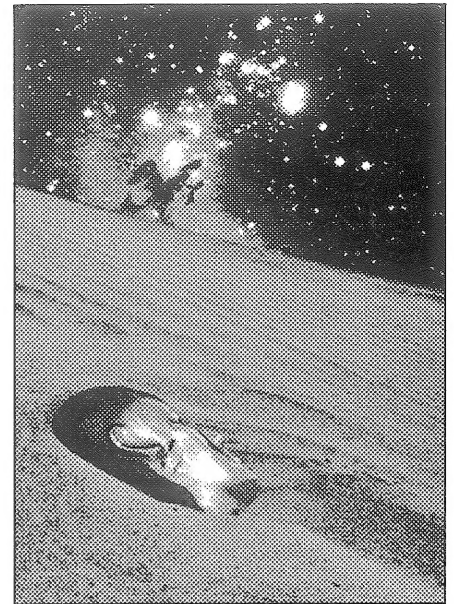
An opportunity to join our Member's slide registry. The registry is presented to curators by the Ylem Exhibits Committee. An initial fee of \$15.00 (\$5.00 annual renewal) is charged to cover the preparation of professional-level presentations.

**NEW! ELECTRONIC MEMBERSHIP OPTION:**

On-line members receive their Directory and Newsletters via the internet (paperless).

**YLEM'S GALLERY ON THE WORLD WIDE WEB:**

An opportunity to exhibit your work in our Web site *Art on the Edge* at: <http://www.ylem.org/ylem>



"Future Dream III," digital art by Margaret Astrid Phanés

**MAILING LABELS of Ylem members**

About 250 artists & art enthusiasts are available to Ylem members for \$20.

Info: Beverly Reiser

510-482-2483

or send \$20 with your request to:

Ylem

PO BOX 749,

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- Please *process my membership* today. Enclosed is the following information and my check in the amount of \$\_\_\_\_.00 for a \_\_\_\_\_ type of Ylem membership  
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is an international

n., pronounced

eye-lum, 1. is a Greek word

for the exploding mass

from which the

universe emerged

organization of artists, scientists, authors, curators, educators, and art enthusiasts who explore the intersection of the arts and sciences. Science and technology are driving forces in contemporary culture. Ylem members strive to bring the humanizing and unifying forces of art to this arena. Ylem members work in new art media such as Computers, Kinetic Sculpture, Interactive Multimedia, Holograms, Robotics, 3-D Media, Film, and Video.

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